

REMARKS/ARGUMENTS

Claims 1 - 12, as amended, are in this case and are being presented for reconsideration.

In the outstanding Office Action, the Examiner rejected all claims under 35 USC §112, second paragraph as being indefinite; rejected Claims 1, 9, 10 and 12 under 35 USC §103 as being obvious over the Yarym-Agaeva et al CAPLUS abstract (Yarym-Agaeva) with evidence from US Cooke patent (5,080,867) and with the Examiner's opinion that certain claim features would be obvious; rejected Claim 2 as being obvious over the combination of Yarym-Agaeva in view of the Cooke patent; rejected Claims 3-8 as being obvious over Yarym-Agaeva in view of US Schneider et al. Patent (5,667,653) with evidence from Cooke; alternatively rejected Claims 1-10 and 12 as being obvious over the Schneider patent in view of Yarym-Agaeva with or without the teachings of Cooke; and rejected Claim 11 as being unpatentable over Yarym-Agaeva or Schneider combined with Yarym-Agaeva and US Bao et al. Patent (5,985,673).

By this Response and Amendment the foregoing rejections are traversed with respect to the amended claims and reconsideration thereof is respectfully requested. Specifically, by this

Response and Amendment, the rejections of the Claims as being obvious are traversed, and independent sensor Claims 1 and independent method Claim 12 have been amended for the sole reason to obviate the indefiniteness rejections, and not to differentiate them from the cited references. Furthermore, it is submitted that these claims have not been narrowed by these amendments, but in fact have been broadened because the replaced words "sensor means" and "substrate" are respectively narrower than the replacing words. It is also submitted that no new matter has been added by these amendments to the claims.

Rejections Under 35 USC §112, Second Paragraph

Claims 1 and 12 have been rejected as being indefinite.

Rejection of Claim 1.

With respect to Claim 1, the Examiner said as follows.

Claim 1 is indefinite because it is drawn to a carbon monoxide sensor, but doesn't appear to have any set forth structure drawn to an actual sensor, other than the vaguely defined "sensor means" (means for what?).

RESPONSE

Claim 1 has been reorganized and "sensor means" has been

changed to "a sensor that senses the presence of carbon monoxide." While it is submitted that the original Claim 1 did have sufficient structure within the requirements of the second paragraph of Section 112, the reorganizing of the claim makes the structure clearer without narrowing the claim. Accordingly it is submitted that Amended Claim 1 fully complies with the requirements of 35 USC §112, second paragraph, and the Examiner is requested to withdraw the indefiniteness rejection with respect to amended Claim 1.

Rejection of Claim 12.

With respect to Claim 12, the Examiner said as follows.

In Claim 12, it is unclear how to interpret the term "gaseous test substrate". The term "substrate" would appear to imply some solid structure, but it isn't clear if that is what the applicant meant. The examiner suggest the use of the term "sample" as an alternative.

In claim 12, it is unclear what "thereof" is referring back to.

In claim 12, it is unclear how to interpret the phrase "the residue of the test substrate" (emphasis added). What is "residue" specifically referring back to?

RESPONSE

Claim 12 has been amended to adopt the suggestion of the Examiner to replace "substrate" with "sample," and the Examiner is thanked for his suggestion. Also, the word "thereof" has been deleted and the words "the residue of the test substrate" has been deleted and replaced with the words "pre-treated test sample" which do have antecedent basis in the claim.

Accordingly it is submitted that Amended Claim 12 fully complies with the requirements of 35 USC §112, second paragraph, and the Examiner is requested to withdraw the indefiniteness rejections with respect to amended Claim 12.

Rejections Under 35 USC §103

All of the claims, namely Claims 1 through 12 have been rejected as being obvious over the prior art of either the Yarym-Agaeva reference or the Schneider patent together with other references.

RESPONSE

In the present application, the carbon monoxide sensor apparatus comprises pre-treatment means and a sensor. The pre-

treatment means comprises an aqueous media to absorb contaminating substances from a gas test substrate and catalytic means to convert contaminating substances to non-contaminating substances at ambient temperatures.

The Yarym-Agaeva reference discloses a carbon monoxide sensor comprising pre-treatment means and sensor means, the pre-treatment means being lead acetate which reacts with hydrogen sulphide (H_2S). This document does not describe a catalytic means to convert any contaminating substances to non-contaminating substances at ambient temperatures as clearly claimed in both original Claim 1 and amended Claim 1.

The Cooke patent describes a process for the detection of carbon sulphide in a gas such as carbon dioxide. In column 5, lines 17-22 of the patent, cited by the Examiner as evidence of conversion, it is described that hydrogen sulphide reacts with lead acetate to produce lead sulphide and acetic acid. This is traversed for at least two reasons.

Firstly, there is absolutely not teaching of combination of a reference that discloses a sensor that detects carbon monoxide (Yarym-Agaeva) with a reference that discloses a sensor that detects carbonyl sulfide (Cooke).

Secondly, it is submitted that the Examiner is incorrect in

his statement that Cooke discloses lead acetate being used as a catalyst to convert H_2S to a non-contaminating substance. The reaction described by Cooke is a chemical reaction, but it is not a catalyzed reaction and, therefore, this document does not impute a teaching to Yarym-Agaeva that, without specifically saying so, a catalytic means to convert contaminating substances to non-contaminating substances at ambient temperatures, as required by the present claims 1 and 12, is described. A catalyst, it should be pointed out to the Examiner, is a substance which influences a chemical reaction without being a reactant as such. The catalytic material is thus not chemically altered in the reaction and is usually recoverable.

In both Yarym-Agaeva and Cooke, the reaction between hydrogen sulphide and lead acetate produces lead sulphide. The solubility of lead sulphide is very low and it therefore forms a precipitate, trapping the sulphur. Thus the lead acetate is a reactant, not a catalyst as required by Claims 1 and 12.

The Schneider patent is not relevant, because, it is respectfully submitted, the basis of the Examiner's objection based on Schneider patent (that it add to Yarym-Agaeva, Yarym-Agaeva disclosing a catalyst) is flawed. The present application does use a catalytic means to avoid the need for a source of

power, as described on page 2, paragraph 6 of the application as filed, and a pre-treatment means. However, the present invention does use a catalytic means as a pre-treatment conversion means. The Schneider patent does not show the use of catalytic means as a pre-treatment means, only as a power source. On the other hand, each of original Claim 1 and Claim 12 claims the catalytic means to convert contaminating substances to non-contaminating substances. The claims must therefore be considered novel and inventive over the prior art documents cited by the Examiner.

Furthermore, although the Examiner gives various conjectures why it would be convenient to combine the various references, none of the references, either the primary or secondary references in the various combinations, teach any need for a combination, teach that one could be substituted or combined with the other, or teach the explicit reasons given by the examiner that would render such combination obvious.

Accordingly, for the reasons cited, it is submitted that the claims are not rendered obvious by the cited combination. Accordingly, reconsideration of the rejection of claims as being obvious is respectfully requested.

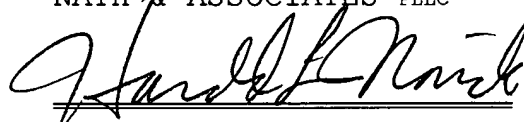
CONCLUSION

Based upon the foregoing amendments and remarks, it is submitted that the presently claimed subject matter complies with the requirements of 35 USC §112, is novel and patentably distinguishes over all of the prior art of record. Thus the Examiner is therefore respectfully requested to reconsider and withdraw rejections of all claims pending herein. Favorable action with an early allowance of these claims is earnestly solicited.

The Examiner is cordially invited to telephone the undersigned attorney if there are any remaining questions or comments.

Respectfully submitted,

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